# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/518,287 | 03/03/2000 | David A. Foti | 04899-034001 | 6548 |

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| 7590 | 12/16/2003 | |

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| EXAMINER |
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| TRUONG, LECHI |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2126 | |

DATE MAILED: 12/16/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>03 March 2000</u> .

2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-34</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>1-34</u> is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____ .

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)      4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)      5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> .      6) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1.      Claims **1, 7, 9, 12, 18, 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Cantin et al (Persistent object-mapping in an object-oriented environment) in view of Nec (Index

implementation method for object oriented database – involves comparing value for structure

type member variable to obtain size related rank for variables).

**As to claim 1**, Cantin teaches method signatures (the object class DOG, page 5, ln 1-

25/persisten object OP, page 8, ln 1-25/ selected object, page 2, ln 5-55), an object (object, page

5, ln 1-10), an object-oriented environment (Object-oriented programming, page 2, ln 1-11), a

method name (the dog name, page 5, ln 1-10), data type (the instance variables " dog_type/ type

of persistent object, page 5, ln 1-25/ a persistent identifier (PID), page 8, ln 5-25), the data types

of  input parameters (the object type of the destination persistent medium, page 8, ln 7-25),

array-based computing environment( a DB2 persistent medium, page 8, ln 7-25),  invoking the

method corresponding( invoking/ invoked an environment type in which said data is to be

mapped, page 8, ln 30-55).

Cantin does not teach ranking the method signature as a function comparison, selecting

… the rank.   However, Nec teaches value is compared for every member variable defined as this

structure type, and size related rank is performed (page 4/27, right col/ page 9/27, right col),

perform search processing of index component (page 12/27, right col/ page 14/ 27, right col),

returns retrieval result (page 17/ 27, right col).

It would have been obvious to apply the teaching of Nec to Cantin in order to improve

the search efficiency and to reduce the search cot about a structure type member variable.

**As to claim 7,** Cantin teaches data type of the signature (the instance variables "

dog_type/ type of persistent object, page 5, ln 1-25/ a persistent identifier (PID), page 8, ln 5-25),

the data type of corresponding input parameter (the object type of the destination persistent

medium, page 8, ln 7-25), object-oriented environment (object-oriented system, page 2, ln 55-

58).

**As to claim 9,** Cantin teaches the input parameters (data structure, page 9, ln 5-15), data

type (environment type, page 9, ln 5-15), the object-oriented environment (object, page 9, ln 5-

5), computer environment (persistent medium, page 6, ln 5-15).

**As to computer program of claim 12,** see the rejection of claim1.

**As to computer program of claim 18,** see the rejection of claim 7.

**As to claim 23,** Cantin teaches an interface (OPSS, page 2, ln 5-30), identifying

(Persistent Id, page 2, ln 5-30), the object-oriented environment (object-oriented programming,

page 2, ln 5-30), a technical computing environment method (PDS, page 2, ln 15-50/ page 15-

25), a calculation workspace (the schemamapper, page 2, ln 37-54/ page 8, line 5-25), a

command interpreter (an interpreter, page 2, ln 36-58), a signature selector (target selection, page

2, ln 36-58) an object (object, page 5, ln 1-10), an object-oriented environment ( Object-oriented

programming, page 2, ln 1-11),   reference to a method( data, a target, page 2, ln 36-58,  the

instance variables " dog_type/ type of persistent object, page 5, ln 1-25/ a persistent identifier(

PID), page 8, ln 5-25),  an object( a selected object, page 2, ln 37-57),  invoking the method

corresponding( invoking/ invoked an environment type in which said data is to be mapped, page 8, ln 30-55).

Cantin does not teach ranking the method signature as a function, selecting ... the rank. However, Nec teaches value is compared for every member variable defined as this structure type, and size related rank is performed (page 4/27, right col/ page 9/27, right col), perform search processing of index component (page 12/27, right col/ page 14/ 27, right col), returns retrieval result (page 17/ 27, right col).

It would have been obvious to apply the teaching of Nec to Cantin in order to improve the search efficiency and to reduce the search cot about a structure type member variable.

2.      Claims **3-6, 8, 14-17, 19, 25-29, 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin et al (Persistent object-mapping in an object-oriented environment) in view of Nec (Index implementation method for object oriented database – involves comparing value for structure type member variable to obtain size related rank for variables) and Hartmut Poglheim (Genetic and Evolutionary Algorithm Toolbox for use with Matlab).

**As to claim 3**, Cantin does not teach calculating fitness ranking. However, Poglheim teach the fitness value for an individual is calculated (section Rank-based fitness assignment).

It would have been obvious to apply the teaching of Poglheim to Cantin in order to sort and to select the method signatures that are based on the selection probability.

**As to claim 4**, Cantin does not teach a preference value, the corresponding signature as a function. However, Poglheim teaches object value fitness value (Section 3.1 Rank-based fitness assignment/ Section 6.3, 6.4).

It would have been obvious to apply the teaching of Poglheim to Cantin in order to sort and to select the method signatures that are based on the selection probability.

**As to claim 5**, Cantin does not teach supper classes, calculation the fitness ranking, calculating difference in level within class. However, Poglheim teaches derived from the objective function (Fitness values, section 6.3), the fitness assigned to each individual depends only on its position (Rank-based fitness assignments, section 3.1).

It would have been obvious to apply the teaching of Poglheim to Cantin in order to sort and to select the method signatures that are based on the selection probability.

**As to claim 6**, Cantin does not teach calculating a difference in a number of dimensions. However. Poglheim teaches the number of individual in the population is used for calculation (section 3.1).

It would have been obvious to apply the teaching of Poglheim to Cantin in order to sort and to select the method signatures that are based on the selection probability.

**As to claim 8**, Cantin does not teach a two-dimensional array storing. However, Polemic teaches table 1: Dependency of fitness value from selective pressure (section 3,1).

It would have been obvious to apply the teaching of Poglheim to Cantin in order to sort and to select the method signatures that are based on the selection probability.

**As to computer program of claim 14,** see the rejection of claim 3.

**As to computer program of claim 15,** see the rejection of claim 4.

**As to computer program of claim 16,** see the rejection of claim 5.

**As to computer program of claim 17,** see the rejection of claim 6.

**As to computer program of claim 19,** see the rejection of claim 8.

**As to the system of claim 25**, see the rejection of claim 3.

**As to the system of claim 26**, Cantin teaches data type listed by the signature (the instance variables " dog type/ type of persistent object, page 5, ln 1-25/ a persistent identifier (PID), page 8, ln 5-25), data types of input parameters (the object type of the destination persistent medium, page 8, ln 7-25), array-based computing environment (a DB2 persistent medium, page 8, ln 7-25),

Cantine does not teach the fitness ranking, the corresponding signature as a function. However, Poglheim teaches object value fitness value (Section 3.1 Rank-based fitness assignment/ Section 6.3, 6.4).

It would have been obvious to apply the teaching of Poglheim to Cantine in order to sort and to select the method signatures that are based on the selection probability.

**As to the system of claim 27**, see the rejection of claim 5.

**As to the system of claim 28**, see the rejection of claim 6.

Cantin does not teach a preference value. However, Poglheim teaches object value fitness value (Section 3.1 Rank-based fitness assignment/ Section 6.3, 6.4).

It would have been obvious to apply the teaching of Poglheim to Cantin in order to sort and to select the method signatures that are based on the selection probability.

**As to the system of claim 29**, see the rejection of claim 8.

**As to the system of claim 34**, see the rejection of claim 6.

3.      Claims **2, 13, 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin et al (Persistent object-mapping in an object-oriented environment) Nec (Index implementation method for object oriented database – involves comparing value for structure

type member variable to obtain size related rank for variables) and further in view of Admitted

Prior Art (APA).

**As to claim 2,** Cantin does not teach a mathematical tool (Malab software program, col

15, ln 66 to col 16, ln 1-40). However, APA teaches conventional mathematical tools (page 1, ln

5-28).

It would have been obvious to apply the teaching of APA to Cantin in order to provide a

comprehensive technical computing environment for performing numerical linear algebraic

calculations.

**As to computer program of claim 13**, see the rejection of claim 2.

**As to the system of claim 24**, see the rejection of claim 2.

4.      Claims **10, 11, 20, 21, 22, 31, 32** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Cantin et al (Persistent object-mapping in an object-oriented environment)

Nec (Index implementation method for object oriented database – involves comparing value for

structure type member variable to obtain size related rank for variables) in view of Hartmut

Poglheim (Genetic and Evolutionary Algorithm Toolbox for use with Matlab) and further in

view of Bill Venners (Eternal Math).

**As to claims 10, 11,** Cantina teaches interpreting the method (an interpreter, page 2, ln

40-45).

Cantin does not teach the object-oriented environment include java virtual machine.

However, Venners teaches java virtual machine (page 1-2).

It would have been obvious to apply the teaching of Venners to Cantin in order to make

system for accessing externally defined objects from an array based mathematical computing

environment more consistent.

**As to computer program of claim 20**, see the rejection of claim 9.

**As to computer program of claim 21**, see the rejection of claim 10.

**As to computer program of claim 22**, see the rejection of claim 11.

**As to the system of claim 31**, see the rejection of claim 10.

**As to the system of claim 32**, see the rejection of claim 11.

5.      Claim **30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin et al

(Persistent object-mapping in an object-oriented environment) in view Nec (Index

implementation method for object oriented database – involves comparing value for structure

type member variable to obtain size related rank for variables) and further in John W. Eaton (A

High-level Interactive Language for Numerical Computations Edition 3 for Octave Version

2.1.x)

**As to the system of claim 30**, see the rejection of claim 9. Further, Cantin does not teach

conventional table for convert. However, Eaton teaches table of input conversions (page 18 of

23).

It would have been obvious to apply the teaching of DV to Cantin in order to summarize

what all the different conversion do.

6.      Claim **33** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cantin et al

(Persistent object-mapping in an object-oriented environment) in view of Nec (Index

implementation method for object oriented database – involves comparing value for structure

type member variable to obtain size related rank for variables) further in view of David M. Gay

(Symbolic-Algebraic Computations in a Modeling Language for Mathematical Programming).

**As to claim 33**, Cantin does not teach a Java Native Interface. However, Gay teaches the

java Native Interface (Page 7, ln 17-20)

It would have been obvious to apply the teaching of Gay to Cantine in order to call

function written in another language.

**7.** *Conclusion*

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to LeChi Truong whose telephone number is (703) 305 5312. The

examiner can normally be reached on 8 - 5.

Fax phone: AFTER_FINAL faxes must be signed and sent to: (703) 746-2738, OFFICAL

faxes must be signed and send to: (703) 746-7239, NON OFFICIAL faxes should not be signed,

please send to: (703) 746-7240

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703 305 9000.

LeChi Truong
December 10, 2003

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